

A14 Cambridge to Huntingdon Improvement Scheme Team
The Planning Inspectorate
National Infrastructure Directorate
Temple Quay House
Temple Quay
Bristol
BS1 6PN

Your Ref: **TR010018**

Our Ref:
A14_WrittenReps_Cover

Date: 15 June 2015

Dear Sir or Madam,

A14 Cambridge to Huntingdon Improvement Scheme

Please find enclosed our Written Representations for the Development Consent Order (DCO) on behalf of the Environment Agency.

Should you have any queries regarding our submissions then please do not hesitate to contact our Project Manager for the scheme, whose details are included, below.

Yours sincerely



Ali Taylor – Environment, Planning and Engagement Manager
Environment Agency – Cambridgeshire and Bedfordshire Area

Contact details:

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A14 Cambridge to Huntingdon Improvement Scheme

Environment Agency Written Representations

Respondent Reference No. TR010018

Introduction

The Environment Agency supports the A14 Cambridge to Huntingdon Improvement Scheme as a key piece of National Infrastructure which will improve the safety and journey time across one to the busiest East – West transport routes in the country. However, in our role as environmental regulator, operator and advisor, we must also ensure that the design, construction and operation of the project reduces environmental impact, mitigates unavoidable impacts and maximises environmental benefits where possible.

These Written Representations build on the detail of the Relevant Representations submitted by the Environment Agency in March 2015. They reflect the current position of the Environment Agency on the application.

Although we have no objection to the application in principle we still have some significant outstanding concerns. Our main concerns at this stage relate to flood risk management, navigation and protection of water quality (including compliance with the Water Framework Directive) and biodiversity.

We consider it is vital that Highways England and their consultants enter into detailed discussions with us as a matter of urgency to try to resolve these. In some cases our concerns relate to information which has still not been supplied for us to consider despite being requested. In others they relate to identifying an appropriate legal means of protecting our position or to the mechanics of securing by the legal means identified not yet being in place.

We will continue to progress matters with the applicant as quickly as possible and keep the Examining Authority informed of our progress. We hope to make significant progress over the summer before the scheduled issue specific hearings in September.

The numbered issues correspond to those raised within our Relevant Representations.

Summary of progress on Issues

Table 1 (below) provides a visual aid as to the issues we have raised both to the applicant during pre-application consultation and also through the Relevant Representations we made to the submission of the Development Consent Order.

For ease of reference we have highlighted each issue in terms of the current position and identified the means through which we consider it will be addressed.

Key to Table 1.	
Red	Agreement yet to be reached with HE or we consider that further information is required.
Amber	Principles of the issue have been discussed with HE. Securing mechanism yet to be agreed.
Green	Issue discussed and agreement reached with HE.

A further update on this will be submitted through our forthcoming Statement of Comment Ground with the applicant and we anticipate additional discussions with the applicant in respect of the Issues raised. We will, of course, update the Examining Authority as to any outcomes resulting from these discussions.

Table 1.

Issue No.	Issue.	How Addressed
Flood Risk and Consents		
1.1	Gt Ouse Crossing	Protective Provision to be agreed
1.2	Diversion of the West Brook (Hall Green Brook)	Protective Provision to be agreed
1.3	Diversion of the Alconbury Brook	Protective Provision to be agreed
1.4	Potential impact on designated Main Rivers	Protective Provision to be agreed
1.5	Disapplication of Legislative Procedures	Protective Provision to be agreed
1.6	Borrow Pits	Detailed Design Stage
1.7	Continued operational access for river maintenance	Further Discussion required on Side Agreement
1.8	Limits of Deviation	Detailed Design Stage
1.9	Temporary Use of Land	Requirement
1.10	Impact to flood risk on Ellington Brook	Whilst we do not require further information, these Issues are raised for the attention of the Examining Authority
1.11	Impact to flood risk on Brampton Brook	
1.12	Impact to flood risk on River Great Ouse	
1.13	Maintenance Schedule	Further discussion required.

1.14	Climate Change Allowances	Further discussion required.
1.15	Commencement of floodplain compensation prior to road construction	Further discussion required.
1.16	Retention timeframe for floodplain compensation areas	Further discussion required.
1.17	Some compensation areas already within the designated floodplain	Further discussion required.
1.18a	Some compensation areas located within Borrow Pits	Further discussion required.
1.18b	Borrow Pits in existing floodplain	Further discussion required.
1.19	Floodplain Alignment	Further discussion required.
1.20	Soil Storage Areas within Floodplain compensation areas	Further discussion required.
1.21	FpC 44 not in continuity with natural floodplain	Further discussion required.
1.22	Annex B - Floodplain Loss	Further discussion required.
1.23	River Great Ouse viaduct - pier alignment	Further discussion required.
1.24	Details of Hydraulic Models	Further discussion required.
Navigation		
2.1	Retention of 3000mm headroom for River Great Ouse crossing	Requirement
2.2	Limits of Deviation	Detailed Design Stage
Pollution Prevention		
3.1	Accidental Spillage Controls	Agreed in principle
3.2	Omitted	Error in Relevant Representation
3.3	Dewatering	Agreed in principle
Groundwater and Contaminated Land		
4.1	Milton Landfill Site	Requirement
4.2	Areas of land affected by contamination	Agreed in principle
4.3	Embankment and viaduct Foundations	Agreed in principle
4.4	Buckden South Landfill Site	Agreed in principle
4.5	Borrow Pit No.6	Agreed in principle
4.6	Limits of deviation	Agreed in principle
Ecology		
5.1	Culverts and Wildlife Access	Agreed in principle
5.2	Bio-Security	Agreed in principle
5.3	Water Vole Mitigation	Agreed in principle
5.4	Watercourse Diversions	Protective Provision to be agreed
5.5	Water Vole Surveys	Agreed in principle
WFD Opportunities		
6.1	Water Framework Directive	Agreed in principle

1.0 **Flood Risk Summary**

1.1 As stipulated within our Relevant Representations, we have been involved in extensive formal and informal pre-application discussions with Highways England (formerly the Highways Agency – the ‘applicant’) regarding the matter of flood risk and surface water drainage as is required by the NPPF and our statutory responsibilities. The National Planning Statement on National Networks (section 5.96) also states that the applicant should ‘*seek sufficiently early pre-application discussions with the Environment Agency*’.

1.2 We have had extensive consultation regarding flood risk in both consultations surrounding the production of the Flood Risk Assessment (FRA) and its methodology and mitigations measures associated with the scheme. EIA Regulations require a FRA to accompany the Environmental Statement (ES). It is worth noting that the applicant has incorporated a summary on Drainage and Water within Chapter 17 of the ES and the full FRA within the appendix 17.1 of the ES.

1.3 We have several flood risk issues and a comprehensive list of the outstanding information required is listed in Appendix A of this submission.

1.4 In summary we require:

- A revised FRA and associated drawings, which include all the evidence requested within the issues detailed below and within Appendix A. This will allow us to fully assess the flood risk issues relating to the scheme. These issues mainly relate to floodplain concerns, flood compensation areas and flood modelling data.
- Satisfactory protective provisions within the DCO if we are to agree to disapply our flood defence consenting regime under the Water Resources Act 1991 and related land drainage byelaws.

Summary of Issues 1.1 to 1.5

1.5 These all relate to our ability to retain our consenting powers in relation to any works in, over or under any designated main river, under Section 109 of the Water Resources Act 1991, and any works that fall within the provisions of the relevant land drainage byelaws (which are our Agency Anglian Region Land Drainage and Sea Defence Byelaws). Within sections 3 (a) and 3(b) of Part 1 of the draft DCO, the applicant has sought to remove the requirement to obtain the necessary consent from ourselves under this legislation. Section 150 of the Planning Act provides that this proposed disapplication of legislation cannot take place without our consent.

1.6 We consider that it is important for us to retain our ability to approve any works affecting main rivers in order to ensure that there will be no increase in flood risk elsewhere and no adverse impact on the status of the relevant Water Framework Directive (WFD) waterbody, but we are content to consider achieving this by way of protective provisions within the DCO.

Issue 1.1 Flood Defence Consents: The River Great Ouse

Our Relevant Representations stated that;

We would wish to retain the ability to agree the crossing for the main river Great Ouse. This is due to the potential for changes within the detailed design phase to result in structural impacts upon localised hydrology and flood risk.

Solution

In the draft DCO the applicant has sought to disapply section 109 of the Water Resources Act 1991 and so make unnecessary the requirement for separate flood defence consents from the Environment Agency. Section 150 of the Planning Act provides such disapplication cannot take place without our specific consent. We are not currently in a position to give this consent but we are happy to engage in discussions with the applicant in the hope of agreeing protective provisions within the DCO which will enable to agree to the disapplication.

Update for Written Representations

1.1.1 Part 1, sections 3 (a) and (b) of the draft DCO proposal requests disapplication of Section 109 of the Water Resources Act 1991 and the provisions of the Anglian Regional Byelaws. This relates to the formal Consent requirement for works in, under or over any designated 'Main' river and any works that fall within the provisions of the Anglian Regional Byelaws (e.g. works within the 9m byelaw distance of a main river). Alterations to the engineering design, during the detailed design phase could impact upon flood water conveyance, potentially affecting third parties, and could affect our ability to access the River Great Ouse for maintenance purposes.

1.1.2 The applicant has provided us with a form of suggested protective provisions with a view to addressing our outstanding concerns. We can confirm that these are broadly acceptable to us although there are a few issues we need to discuss further in order to finalise a mutually agreeable position.

1.1.3 We anticipate that we will be able to agree these during the course of the examination and will jointly provide a copy of these to the Examining Authority once finalised.

1.1.4 This matter is also relevant to Issue 1.5 *Disapplication of Legislation* and Issue 2.1 *Navigation* (below).

Issue 1.2 Diversion of the West Brook (Hall Green Brook)

&

Issue 1.3 Diversion of the Alconbury Brook

Our Relevant Representations stated that;

Impact

We believe that there needs to be a consultation on the proposed realignment. We currently retain the ability to formally Consent any works and wish to remain the determining authority for such proposals. Issues that will need to be addressed include the wider hydrological impacts, any increase in flood risk to any third party and also the ecological implications and any possible mitigation to be incorporated.

Also see the 'opportunities' for the West Brook within the WFD section, below.

Solution

In the draft DCO the applicant has sought to disapply s109 Water Resources Act 1991 and so make unnecessary, the requirement for separate flood defence consents from the Environment Agency. Section 150 of the Planning Act provides such disapplication cannot take place without our specific consent. We are not currently in a position to give this consent but we are happy to engage in discussions with the applicant in the hope of agreeing protective provisions within the DCO which will enable to agree to the disapplication.

Our powers relating to the diversion of main rivers are currently held under Section 109 of the Water Resources Act (structural impacts upon hydrology), Section 59 of Water Act 2014 & Section 193 of the Water Resources Act 1991.

Update for Written Representations

1.2.1 These Issues relate to the proposed disapplication of Consenting powers as identified within Issue 1.1, above. We need to assess the proposed revised routes of the rivers along with impacts on flood risk and ecology. In addition, this should not result in an adverse impact on the status of the relevant Water Framework Directive (WFD) waterbody or the ability to deliver any improvements to improve said status. This is also identified within Issue 6.1 of this submission.

1.2.2 The realignment for the West Brook is shown on drawing No. A14-JAC-ZZ-E1-DRZ-010011.pdf and for the Alconbury Brook is shown on drawing No. A14-JAC-ZZ-E1-DRZ-010002.pdf

1.2.3 We are content to consider retaining our ability to approve works affecting main rivers by way of protective provisions within the DCO.

1.2.4 Note: In our relevant representations, we referred to our powers relating to the diversion of main rivers under section 59 of the Water Act 2014 and section 193 of the Water Resources Act 1991. These relate to the 'Main River' map, which will be amended following the river diversions and is not of concern as we will undertake any amendments post completion of specific elements of the scheme.

Issue 1.4 Works Affecting Main Rivers

Our Relevant Representations stated that;

We would wish to retain the ability to agree the crossing for the other designated main rivers along the length of the proposed scheme. This is due to the potential for changes within the detailed design phase to result in structural impacts upon localised hydrology and flood risk.

Update for Written Representations

1.4.1 This relates specifically to structures in, on, under, over or within 9 metres of a designated 'Main' River. This Issue relates to the proposed disapplication of Consenting powers as identified within Issue 1.1, above.

1.4.2 We are content to consider retaining our ability to approve works affecting main rivers by way of protective provisions within the DCO.

Issue 1.5 Disapplication of legislative provisions

Our Relevant Representations stated that;

We will be unable to carry out our statutory duties if we are unable to regulate temporary and permanent structures across many main rivers within catchment of the River Great Ouse. In future, this could lead to an increase in flood risk, detrimental impacts on the watercourse and extra cost to us to carry our duties if designs are not in accordance with our requirements.

Update for Written Representations

1.5.1 This relates specifically to our ability to undertake works to main rivers. These would include maintenance or emergency works such as debris clearance or bank repair.

1.5.2 Again, this Issue relates to the proposed disapplication of Consenting powers as identified within Issue 1.1, above and we are content to consider retaining our ability to approve works affecting main rivers by way of protective provisions within the DCO.

Issue 1.6 Borrow Pits

Our Relevant Representations stated that;

We would advocate that some of the borrow pits along the route incorporate appropriate design, restoration and operation in order to deliver flood risk betterment to downstream built-up areas.

Several borrow pits will be created on upstream stretches of watercourses where there are communities at risk of flooding further downstream. Their potential use as flood storage areas to reduce flooding during times of high river flows is immense. The costs associated with their use as flood storage areas would be minimal.

The benefits could be huge for local people who have in the past suffered property, garden and road flooding which all cause distress and disruption.

Any benefits should be secured in perpetuity post completion of the construction of the scheme and taken on by any new operator / owner of the borrow pits post-completion of the scheme.

Impact

Through discussions with the applicant, we have identified that a number of the Borrow Pits offer the potential to reduce flood risk. A task and finish group is being set up to discuss the ongoing issues relating to borrow pit restoration.

Update for Written Representations

1.6.1 As detailed under the 'impact' section of our relevant representations, a task and finish group is being set up by Highways England to discuss the ongoing issues relating to the potential uses of the borrow pits, their management and ownership. We have been invited to participate in this group and are advocating that specific borrow pits be utilised as flood storage areas in order to reduce flood risk to downstream communities.

1.6.2 We are aware that the applicant intends to undertake a study to assess the potential benefit of utilising borrow pits for flood risk betterment and we consider that this issue can be resolved through further discussions. We therefore anticipate this to take place through future discussions at the [detailed design stage](#).

1.6.3 The applicant refers to this issue as one of 'legacy' as it is not their intention to retain the land or function of the borrow pits for the ongoing operation of the Highway and that they are solely utilised for the winning of minerals in order to facilitate the road construction.

1.6.4 Borrow pits, no's 1, 3 and 7 are already located in the floodplain. Therefore this function as an area for flood water flow and storage needs to be retained either within the borrow pits or as flood compensation nearby for the loss of this floodplain.

1.6.5 We welcome these borrow pits are recognised in section 27 of the FRA as needing to be secured for the lifetime of the scheme as flood storage systems to the benefit of local communities for years to come. The means through which this can be achieved are yet to be determined. We suggest that the applicant should enter into a binding legal agreement with ourselves to secure the future use of the borrow pits as flood storage capacity and will discuss this issue further with them.

Issue 1.7 Continued operational access for river maintenance

Our Relevant Representations stated that;

Impact

Any prevention, through lack of access or operation development, of our access to main rivers could result in the potential exacerbation of flood risk. This would occur in the event that we were unable to access locations to remove debris, repair flood defences or river banks etc.

Solution

We would therefore need to ensure that our operational team retain the ability to access main rivers to undertake our permissive powers. This could be done either via means of a requirement of the DCO itself, or through agreement between our organisation and the applicant as to access provision through the detailed design period. Any agreement should also cover phasing arrangements for the scheme to ensure year round access.

We propose to have ongoing discussions with the applicant with regards to this point and can hopefully provide further update as the examination progresses.

Update for Written Representations

1.7.1 With regard to issue 1.7, it is essential that we retain our ability to access any main rivers in order to undertake our permissive flood risk management powers in relation to maintenance and evidence gathering. Any obstruction to our access to main rivers could result in the exacerbation of flood risk.

1.7.2 We have statutory powers of entry under the Water Resources Act 1991 which allow us to gain access for the exercise of our flood risk management powers. Access can only be gained, however, where it is physically possible to do so. We consider that it would be of benefit to both parties to agree key access routes at this stage and we are preparing plans to illustrate these for the applicant.

1.7.3 This issue could be resolved either via means of a requirement within the DCO itself, or through a written agreement between the applicant and ourselves with regard to access provision. Any agreement should also cover phasing arrangements for the scheme to ensure year round access.

1.7.4 Issues to be addressed within a side agreement (further issues may be identified):

1. Viaduct crossing over the River Great Ouse, as detailed under issue 1.23, the piers of the proposed viaduct *under Annexe H of the FRA in Appendix 17.1 drawing no A14-ACM-BN-05-DR-S-00021 rev P00.1* are currently too close to the river to allow our staff to access the banks to undertake maintenance works. The design of the viaduct will therefore need to be revised to allow us to adequate access along the bank with vehicles and machinery.
2. Figure 17.2 of Annexe B of the FRA indicates that Borrow Pit 7 may be too close to Ellington Brook to allow us to carry out maintenance activities along this section of the watercourse. We need to retain a clear 9m access strip along this main river section in perpetuity and need to retain at least a 5m strip during the construction phase to allow us to carry out our permissive powers for example to remove any obstructions in the river.

Issue 1.8 Limits of Deviation

Our Relevant Representations stated that;

Draft DCO section 7, page 8 - We have concerns relating to the lateral or vertical movement of the route within the area to be compulsory purchased to deliver the scheme. This is particularly in the vicinity of designated main rivers where we would not want the deviation of the scheme to impact upon our maintenance responsibilities (see point 1.7, above)

The wording at the end of (b) this Article regarding vertical deviation is particularly, and our view unnecessarily wide.

Impact

If the applicant needs to use these deviations vertically or laterally, this could have huge implications on the flood risk mitigation proposed, flood paths, floodplain, flood compensation areas and increase flood risk unless these issues can be addressed where these deviations are required.

Solution

Appropriate provisions should be included in the DCO to ensure we are consulted upon (and agree proposals for) any deviation where there are over or within;

- *Flood zone 3 (where floodplains impacted or encroached into),*
- *Main river and existing or new structures on main rivers, encroachment into flood compensation areas and borrow pits identified as offering flood attenuation.*

Whilst we expect these issues to be addressed through the detailed design phase we may need this securing as a protective provision or requirement within the DCO.

This issue relates to the additional concerns on Navigation (Issue 2.2) and also in the Groundwater and Contaminated Land section (Issue 4.6), below.

Update for Written Representations

1.8.1 'As stated in our Relevant Representations we are concerned about the scope of the limits of deviation requested as the Flood Risk Assessment has not been carried out on the basis that these limits will be utilised and we consider that the applicant should be required to fully justify the need for them. We will discuss this issue further with the applicant in the hope of securing protection for the Environment Agency's interests in relation to this matter.

1.8.2 In any event we would request the deletion of the wording in Article 7 which provides that maximum limits of vertical deviation should not apply where it is demonstrated that deviation in excess of these limits would not give rise to any materially new or materially worse environmental effect than those assessed in the environmental statement. The implications of works to this extent have not been considered in the Flood Risk Assessment and could have potentially much more significant effects in terms of flood risk than those assessed.'

Issue 1.9 Temporary Use of Land

Our Relevant Representations stated that;

Within Schedule 7 of the draft DCO there are areas of land identified for the potential location of Soil Storage Areas (SSAs) in Flood Zone 3 (high risk). We have communicated through earlier pre-application discussions that we would not wish to see SSAs located within Flood Zone 3.

Impact

In February 2014 we stated in a letter to the applicant and advised in several meetings that no soil heaps would be acceptable within Flood Zone 3. The FRA and annexes highlight several locations where soil is to be stored in the floodplain. This would reduce flood storage and increase flood risk elsewhere.

The soil areas may be prone to floodwater ingress which could wash some materials away and deposit them within the river system causing blockages and increased flood risk elsewhere.

Solution

We reiterate our position that all soil storage areas should be outside Flood Zone 3 and request that the DCO incorporate a requirement for the relocation of these SSAs. Most notably these are areas SS30, SS32, SS37 and SS38.

Update for Written Representations

1.9.1 The siting of plant compounds and machinery will be addressed through the detailed design phase on the basis that they are not appropriate forms of temporary development to be located in areas of flood risk. We are currently of the opinion that a specific requirement to formally secure this matter be appended to the DCO and agreed between appropriate parties.

1.9.2 We reiterate our position that all soil storage areas should be outside Flood Zone 3 and request that the DCO incorporate a requirement for the relocation of these SSAs. Most notably these are areas SS30, SS31, SS32, SS34, SS37 as shown on drawing titled Fig 17.2 Flood Zones and Flood Compensation areas held within Annexe B of the FRA shown on sheet 7 and also on SS37 and SS38 shown on sheet 8. We also wish to see a Requirement put forward whereby no soil storage areas will be located within Flood Zone 3. The Requirement could also encompass Issue 1.20.

1.9.3 This also relates to Issue 1.20, below with regards to the siting of Soil Storage Areas within areas for floodplain compensation.

Issues 1.10 to 1.12: Impact to flood Risk on;

1.10 Ellington Brook

1.11 Brampton Brook

1.12 River Great Ouse

Our Relevant Representations stated that;

Impact

The FRA clearly states the increase in flood levels at these locations and highlights these 3 areas where open land, mainly farmland will result in increased flood levels due to the scheme. We have stated that each landowner should be visited and the increased duration, frequency and depth of flooding explained to them and ourselves so that an informed decision can be made on the acceptability of this increase in flood risk. This information is not held within the FRA.

Solution

The applicant needs to seek agreement with landowner relating to the change in flood risk to their land. The information regarding the engineering works and flooding implications needs to be given to landowners and their responses to this should be used to inform the decision making process. We still need confirmation that landowners understand increased flood risk to land, not property, and accept this risk.

Update for Written Representations

1.10.1 Issues 1.10 to 1.12 relate to the increase in flood levels at three locations, as indicated in the Flood Risk Assessment in the ES. In all three locations, the applicant needs to seek agreement with the relevant landowner regarding the change in flood risk to their land. Information relating to the engineering works and flooding implications needs to be provided to landowners and responses to this consultation should be used to inform the decision making process. We have been advised that the applicant is in discussion with the affected landowners and will seek their formal agreement to the change in flood risk.

1.10.2 We have raised these issues [for the attention of the Examining Authority](#) as we had recognised the issues through earlier discussion with the applicant.

1.10.3 Specifically in relation to these issues:

1.10 – Ellington Brook – The affected land is located on Land Plans Regulation (5) (2) Sheet 4 of 40 (Reference A14-ARP-ZZ-00-DR-Z-00104). This plan shows land that could be affected as outside of the acquisition area.

1.11 – Brampton Brook - The affected land is identified on the Land Plans Regulation (5) (2) Sheet 7 of 40 (Reference A14-ARP-ZZ-00-DR-Z-00107). Land under the ownership of landowners 7/13 (b) and (c) is identified as having an increase in flood risk as a result of the proposed scheme.

1.12 – River Great Ouse - The affected land is located on Land Plans Regulation (5) (2) Sheet 9 of 40 (Reference A14-ARP-ZZ-00-DR-Z-00109). This plan shows land that could be affected as outside of the acquisition area.

Issue 1.13 Maintenance Schedule

Our Relevant Representations stated that;

We seek clarifications as to the maintenance parameters for the surface water drainage system from the new route. Whilst we are aware of the existence of the applicant's maintenance programme for trunk roads, we could not locate any reference to this within the application.

Impact

Deterioration of surface water systems could lead to problems of increased flood risk or a deterioration in water quality in recipient watercourses.

Solution

We request clarification as to how the highway attenuation will be maintained. This could be confirmed through the detailed design phase.

Update for Written Representations

1.13.1 We believe that this matter is to be addressed through a maintenance schedule to be produced by the applicant. We will review this alongside any other statutory organisations with responsibilities associated with this issue.

Issue 1.14 Climate change allowances need to be reassessed on confirmation of the lifetime of the scheme

Our Relevant Representations stated that;

Within the FRA and associated Annexes (and the Design Input Statement) the climate change allowances for runoff control (attenuation) are stated as 20% increase in rainfall within the calculations. The FRA states the lifespan of the scheme is 100 years (within FRA conclusion point 29.1.10 Exception Test). Therefore the climate change allowances used should be beyond 2085 and therefore should be using 30% increase in rainfall total for the runoff calculation (in accordance with the UKCP09 projections).

Impact

The entire designs of the attenuation features to store the runoff have used a climate change allowance of 20%. Over the whole lifespan of the scheme, with current predictions the attenuation facilities will not be able to store the full volume of runoff anticipated within its lifetime. Therefore they may increase flood risk elsewhere.

If 30% increase required may need further space / volume for pond storage which may result in land changes/takes.

Solution

The lifetime of the scheme needs to be clarified (it was previously calculated to 2085, 70 years from design). If it is 100 years then each attention design needs to be revisited and recalculated. Further storage may be required for some locations to allow for the increase from 20% rainfall inputs to 30% rainfall inputs.

We therefore request confirmation as to the lifespan of the proposal and the application of the correct climate change allowances for it.

Update for Written Representations

1.14.1 This Issue concerns climate allowances used to design the storage ponds required for the runoff from the new road. It is essential that our concerns relating to climate change allowances are addressed within a revised Flood Risk Assessment and Design Impact Statement for drainage, as detailed in our Relevant Representations. This is to ensure that the attenuation features that form part of the surface water drainage scheme have sufficient capacity to attenuate runoff for the lifetime of the development, without any increase in flood risk elsewhere.

1.14.2 The storage capacity for balancing ponds and similar attenuation facilities shall be sufficient to store the critical duration 1 in 100 year storm event +20% climate change allowance. This is based upon the applicant's determination of the 'lifetime of the development' to 2085. In the event that the anticipated design life expectancy of the drainage exceeds year 2085 then further consultations with EA and CCC shall be carried out at detailed design stage.

1.14.3 The design of balancing ponds shall provide, as far as is reasonable, for increase in the size of the ponds (or provision of alternative measures at reasonable cost) at a future date to provide for a forecast minimum 30% climate change allowance beyond 2085. The Operations Manual for the attenuation ponds and drainage generally, shall highlight the need for review of climate change allowances when carrying out major maintenance and renewal.

1.14.4 We will review this alongside any other statutory organisations with responsibilities associated with this issue.

Summary of Issues 1:15 to 1:21 Floodplain Compensation (FpC)

1.15.1 With regards to Issues 1.15 to 1.21, there are several key issues with the floodplain compensation (FpC) areas that need to be addressed as part of the proposal. These are required in order for us to find the FpC an acceptable method of mitigating the loss of areas of floodplain. The A14 will dissect across several floodplains within the River Great Ouse catchment, including the River Great Ouse and many of its tributaries.

1.15.2 The appropriate provision of areas for FpC is essential in places where the impact of the scheme is not negligible or where there are no hydraulic models available for the watercourses. As detailed in our Relevant Representations, the following issues need to be addressed in relation to in order for us to find the FpC proposals an acceptable method of mitigating the loss of areas of floodplain:

1. The Flood Risk Assessment needs to explain the importance of constructing the FpC areas prior to the commencement of construction of the relevant road sections, to prevent an overall loss of floodplain.
2. The applicant should be required to develop a programme to provide full details of each FpC area with levels and model data, including digital terrain modelling, so that these areas can be incorporated as floodplain within future Flood Map updates to ensure they are secure for the lifetime of the scheme. The Design Impact Statement should also be revised to address this issue.
3. Several of the proposed flood compensation areas are shown to be within Flood Zone 3, which is unacceptable as they will not provide the required level for level floodplain compensation and could increase flood risk elsewhere. These areas will need to be relocated unless evidence can be provided to demonstrate that these areas are not currently in the floodplain.
4. Some of the FpC areas are delineated as being within the borrow pits. If the borrow pits are to be used as floodplain compensation areas then their use for this purpose will need to be secured for the lifetime of the development to ensure their function as flood storage areas is not lost in the future.
5. Some of the FpC areas are not aligned with the existing floodplain and therefore may not operate effectively.
6. Several FpC areas are noted as also having soil storage areas within them. This is unacceptable as the loss of floodplain storage due to soil storage would result in an increase in flood risk elsewhere.
7. Some of the FpC areas are not in direct contact with the existing floodplain and therefore will not act in the same way as the existing floodplain that is being lost to the scheme. This could result in an increase in flood risk to third parties.

1.15.3 Although our concerns with an earlier version of the proposal, relating to the crossing over the River Great Ouse have been addressed through a revised design of the crossing, we consider that further changes need to be made to this design to ensure there will be no increase in flood risk to third parties. As detailed under issue 1.23, the piers of the viaduct within the floodplain should be rotated approximately 45 degrees to make these in line with flood flow routes. The piers of the viaduct should also be hydrodynamic in shape to allow flood waters to move around them smoothly and quickly.

Issue 1.15 FpC commencement prior to relevant road construction

Our Relevant Representations stated that;

The FRA needs to explain why it is so important that the FpC areas are constructed prior to the commencement of construction of the relevant road sections, to prevent an overall loss of floodplain.

Impact

During construction if there is loss of floodplain and the FpC has not been contoured and there was a flood event, this could result in floodwater moving elsewhere and increase the risk of flooding to others. It could also hamper the works as flood water will try to take its natural route and move into these areas which may be under construction.

Construction activity will result in the compact of soils which will increase the velocity of surface water run-off. Compensation areas are therefore required to prevent this run-off causing deterioration to water quality in receiving watercourses.

Solution

An agreement is set out within the FRA that ensures the phasing of each relevant section of road will trigger the flood compensation to be constructed prior to its commencement. This principle would feed into the phasing plan for the scheme.

This should be required to be conducted as part of the detailed design phase.

Update for Written Representations

1.15.4 As detailed under Issue 1.14, above, the Flood Risk Assessment needs to explain the importance of constructing the FpC areas prior to the commencement of construction of the relevant road sections, to prevent an overall loss of floodplain.

1.15.5 The FRA needs to explain why it is so important that the FpC areas are constructed prior to the commencement of construction of the relevant road sections, in order to prevent an overall loss of floodplain. Further detail should be provided with regard to how the FpC areas will relate to each phase of the development. We also consider that there is insufficient information to demonstrate that level for level compensation will be provided within the relevant FpC areas during each phase of the development.

1.15.6 During construction if there is loss of floodplain and the FpC has not been contoured and there was a flood event, this could result in floodwater moving elsewhere and increase the risk of flooding to others. It could also hamper the works as flood water will try to take its natural route and move into these areas which may be under construction.

1.15.7 Construction activity will result in the compact of soils which will increase the velocity of surface water run-off. Compensation areas are therefore required to prevent this run-off causing deterioration to water quality in receiving watercourses.

1.15.8 Whilst there is a statement within Chapter 17 of the ES section 17.5.11 we wish this to be detailed further within the FRA to ensure that the phasing of each relevant section of road will trigger the relevant flood compensation areas to be constructed prior to its commencement. We also request that, for each flood compensation area, a cross section drawing showing the changes in ground levels with slices through each band of level for level compensation, as detailed in the tables within Annex F, is included in the FRA. A clear drawing, potentially colour coded, showing the linked systems (i.e. relevant FpC area linked to the lost floodplain area) should also be included and this would feed into the phasing plan for the scheme.

1.15.9 We request this is dealt with in more detail within the FRA and then a Requirement is put forward to ensure that as each phase comes forward the appropriate mitigation commences prior to that phase. This should then be required to be conducted as part of the detailed design phase.

Issue 1.16 Flood compensation areas stated as being within the 5 year mitigation period only.

Our Relevant Representations stated that;

The FpC areas are there to mitigate the loss of floodplain for the lifetime of the scheme. These areas must be secured for longer than 5 years. This is noted as temporary mitigation within 5 years of road being build within chapter 11.4.5 of FRA.

Impact

If these areas are not recognised as new floodplains then after the 5 years they could be develop on or the levels changed by landowner and the floodplain areas lost which could increase flood risk elsewhere.

Solution

The applicant should be required to develop a programme to provide full details of each flood compensation area with levels and model data including digital terrain modelling so that these areas can be incorporated as floodplain within future flood maps to ensure they are secure for the lifetime of the scheme.

We would also seek to ensure that an agreement is made to give details to allow FpC to be included in our relevant updated flood mapping once work on the FpC areas is completed.

The onus is on the applicant to submit such data at the relevant time to EA so FpC become designated floodplain and are therefore protected as such.

The Design Impact Statement should also be revisited to address this.

Update for Written Representations

1.16.1 The FpC areas are there to mitigate the loss of floodplain for the lifetime of the scheme. These areas must be secured for longer than 5 years. This is noted as temporary mitigation within 5 years of the road being built within chapter 11.4.5 of FRA.

1.16.2 If these areas are not recognised as new floodplains then after the 5 years they could be developed on or the levels could be changed by landowners and the floodplain areas lost. This could lead to the increase flood risk elsewhere.

1.16.3 The applicant should be required to develop a programme to provide full details of each flood compensation area with levels and model data, including digital terrain modelling, so that these areas can be incorporated as floodplain within future updates of our Flood Map to ensure they are secured for the lifetime of the scheme.

1.16.4 We would also seek to ensure that an agreement is included within the FRA which sets out a process to provide us with details to allow FpC areas to be included in our Flood Map updates once work on the FpC areas is completed.

1.16.5 The onus should be on the applicant to submit such data at the relevant time so FpC areas become designated floodplain and are therefore protected as such. Ideally this should be formulated as part of a Requirement. The Design Impact Statement should also be revisited to address this.

1.16.6 The applicant has accepted this approach and ongoing discussions will take place to determine how this can be achieved.

Issue 1.17 FpC - Some Floodplain compensation areas already in floodplain

Our Relevant Representations stated that;

We note that several of the flood compensation areas highlighted on drawings Appendix 17.1 and FRA Annexe B are also shown to be within Flood Zone 3 already and therefore considered to flood.

Impact

These areas are already considered at risk of flooding and cannot offer 'new' floodplain storage therefore they would serve no purpose as flood compensation areas and with the road taking up floodplain they would offer no betterment and could increase flood risk elsewhere.

Solution

Key FpC areas that need to be re evaluated are: FpC 28, 43 and 48 which wholly within the floodplain and FpC 04 and 30 are partially in the floodplain.

Evidence needs to be submitted to show that these areas are not currently in the floodplain due to detailed surveys of the areas or if they are confirmed as floodplain then new areas will need to be identified for the relevant lost floodplains. All the FpCs need to be checked to ensure none of them are in Flood Zone 3.

Update for Written Representations

1.17.1 These areas are already considered at high risk of flooding and cannot offer 'new' floodplain storage. Therefore they would serve no purpose as flood compensation areas and with the road taking up floodplain they would offer no betterment and could increase flood risk elsewhere. Whilst Annexe F of Appendix 17.1 of the FRA shows calculations for each area of floodplain lost, there is no detail as to how the levels have been derived. Clarification is required that detailed ground surveys have already been carried out and show these FpC areas are higher areas surrounded by floodplain. Use of LiDAR survey would not be acceptable in isolation. LiDAR is a method of digital surveying of land levels through light or radar, often from an aerial position.

1.17.2 Key FpC areas that need to be re-evaluated are:

- FpC area 28 as shown in sheet 11 of Drawing titled 'Fig 17.2 Flood Zones and Flood Compensation areas' held within Annexe B of the FRA is entirely within the floodplain;
- FpC area 43 also within the same drawing but on sheet 8 is entirely within the floodplain;
- FpC areas 04 and 05, which may be partially in the floodplain, as shown on sheet 3 of Fig 17.2; and
- FpC area 30 which is also partially within the floodplain, as shown on sheet 11.

(We would also like further clarification on the location of FpC area 48.)

1.17.3 Evidence needs to be submitted within the FRA to show that each of these areas are not currently in the floodplain based on detailed ground level surveys of the areas or, if they are confirmed as floodplain, then new areas will need to be identified for the relevant lost floodplains. All the FpC areas need to be checked to ensure that none of them are in Flood Zone 3. We request that, once determined, this also be secured as a Requirement of any DCO.

1.17.4 Apparent discrepancies between the EA's published flood zones and the flood extents derived from the detailed hydraulic modelled undertaken to support the FRA are under discussion. The applicant proposes to present the detailed models to ourselves for review and agree the revised flood extents.

Issue 1.18 Some FpC located in Borrow Pits.

Our Relevant Representations stated that;

The borrow pits have clear flood attenuation benefits for the local communities. Whilst these are considered 'legacy' issues within the FRA, some flood compensation areas are delineated as being within the borrow pits. This therefore makes the function of flood attenuation a technical and design requirement of these borrow pits. Legacy issues are deemed to be potential benefits that could be derived from the construction of the scheme. However, the land that they relate to, and operation they perform, will not be retained within the ownership of the applicant post completion of the route's construction.

Impact

If borrow pits are to be used as flood compensation areas then they need to be secured for the lifetime of the development as flood compensation areas so the flood storage element is not lost in future years.

Solution

Borrow pits which include flood compensation areas must be secured within the FRA as floodplain for the lifetime of the scheme. The borrow pits must be permanently listed as offering Flood Attenuation benefits.

Such locations are notably FpC 05 in BP1, FpC 03 in BP2 most of BP3 in existing floodplain also sits within this issue.

Update for Written Representations

1.18.1 There are two elements to this issue, the first being the potential use of borrow pits for flood attenuation to reduce downstream flood risk to communities, the second relating to the engineering design and surrounding landscape for borrow pits in areas of existing floodplain. We have therefore separated these into Issues 1.18a and 1.18b, the details of which are as follows.

Issue 1.18a FpC located in Borrow Pit.

1.18.2 The borrow pits have flood attenuation benefits for the local communities. Whilst these are considered 'legacy' issues within the FRA and are raised within Issue 1.6, it is noted that one flood compensation area is delineated as being within a borrow pit. This therefore makes the function of flood attenuation a technical and design requirement of this borrow pit.

1.18.3 If borrow pits are to be used as flood compensation areas then they need to be secured for the lifetime of the development as flood compensation area/floodplain so the flood storage element is not lost in future years.

1.18.4 Borrow pits which include flood compensation areas must be secured within the FRA as floodplain for the lifetime of the scheme. The borrow pits must be permanently listed as offering flood attenuation benefits.

1.18.5 FpC area 03 is within Borrow Pit 2, as shown on sheet 3 within the drawing titled 'Fig 17.2 Flood Zones and Flood Compensation areas' held within Annexe B of the FRA.

Issue 1.18b Borrow Pits located within Floodplain

1.18.6 Some borrow pit locations are also in existing floodplains. Therefore their use long term must allow for flood water to flow across and onto them as it currently can, so flood water can use its natural floodplain when required.

1.18.7 If these borrow pits are isolated from the floodplain then this may result in flood water being diverted elsewhere, increasing flood risk to other locations. If the borrow pits are to be located in areas currently at risk of flooding then ground levels must not be raised so that flood water can continue to move across these locations. Further analysis would be required to ensure that during floods, water would not be drawn out of the borrow pits and increase flood risk elsewhere.

1.18.8 Borrow pits located within existing floodplains must be secured within the FRA as floodplain for the lifetime of the scheme, with no increase in land levels that would reduce the floodplain storage or divert flood flows elsewhere. We request a Requirement is put forward to ensure that there will be no raising of ground levels in these two locations on completion of the borrow pits.

1.18.9 Most of Borrow Pit 3 is within the floodplain of West Brook, as shown on sheet 7 of Fig 17.2, as is Borrow Pit 7 where the majority of the pit is within the floodplain of the Ellington Brook, as shown on Sheet 2 of Fig 17.2.

1.18.10 It is our understanding that the applicant accepts this approach, however further discussions are required as to how this is achieved.

Issue 1.19 FpC - Alignment

Our Relevant Representations stated that;

All FpC need to be aligned with existing floodplain (in parallel) to form an extension to the existing floodplain. This alignment would ensure better conveyance of flood water within the floodplain.

Impact

Some FpC are doglegs of the existing floodplain, being located at right angles to the natural flood water flow. This would not be a good use of land or floodplain conveyance.

Solution

Any FpC for this scheme should be aligned to existing floodplain areas.

Update for Written Representations

1.19.1 FpC area 27 is perpendicular to, and not in alignment with, the natural floodplain. It therefore may not easily fill and store water compared to the floodplain lost as a result of the scheme. This is shown on drawing entitled 'Fig 17.2 Flood Zones and Flood Compensation areas' held within Annexe B of the FRA shown on sheet 8.

1.19.2 The orientation of floodplain compensation areas is another area of ongoing discussion. Additional hydraulic modelling is being undertaken to clarify the issue and demonstrate any additional beneficial impact of the FpC areas.

Issue 1.20 FpC areas have temporary soil storage within them.

Our Relevant Representations stated that;

Several flood compensation areas are noted as also having soil storage areas within them. As in issue 1.15 above, the FpC areas need to be constructed prior to commencement of the road; if the areas are subsequently to be used to store soil then flood storage will be lost.

Impact

The loss of floodplain storage due to soil storage will result in flood risk increased elsewhere.

Update for Written Representations

1.20.1 The soil storage areas (SSAs) must be removed from all flood compensation areas or new compensation areas should be considered. No SSA within Flood Zone 3 is acceptable due to the loss of floodplain, even on a temporary basis during construction.

1.20.2 We have been advised the updated information in relation to this issues is to be presented as part of the proposal though we are yet to receive any such details. The applicant has informed us that the identified clashes between FpC areas 02, 08, 43 and the SSAs has been addressed as the soil storage areas are no longer required. This issue is also relevant to Issues 1.9, above.

1.20.3 These areas are shown on the drawing entitled “Fig 17.2 Flood Zones and Flood Compensation areas” held within Annexe B of the FRA. On sheet 3 FpC area 02 is partially within soil storage area SS8 and on sheet 8 it can be seen that FpC area 43 is within soil storage area SS37 and SS38.

1.20.4 Should the identified solution not be demonstrated then we would request that as part of the solution, a requirement could be set, to prevent SSAs within FpC (this could be linked to a Requirement for resolution of Issue 1.9).

Issue 1.21 FpC 44 not in continuity with natural floodplain

Our Relevant Representations stated that;

All flood compensation areas must be in direct continuity with the natural existing floodplain.

Some areas have been identified that are not in direct contact with the floodplain and therefore if these areas become new FpC areas they will not act in the same way as the existing floodplain that is being lost due to the scheme.

Impact

FpC areas must replicate the floodplain lost and come into play at exactly the same time as the lost floodplain otherwise floodwater may move into other areas and increase flood risk elsewhere to third parties.

Solution

All FpC should be aligned to the existing floodplain or close to where the floodplain has been lost. All FpC areas must be in line with the natural floodplain lost to give as much conveyance and storage possible.

Update for Written Representations

1.21.1 FpC area 44 is not in direct continuity with the Hilton Road Drain and the Connington Brook floodplains, where the scheme is impacting upon them. This area needs to be realigned to these natural floodplains. This is shown on drawing entitled “Fig 17.2 Flood Zones and Flood Compensation areas” held within Annexe B of the FRA shown on sheet 7.

1.21.2 The continuity of floodplain compensation areas is under ongoing discussion. We have been advised that additional hydraulic modelling is being undertaken to further demonstrate the additional beneficial impact of the FpC areas.

Issue 1.22 Annex B - Floodplain Loss

Update for Written Representations

1.22.1 This relates to floodplain loss area in between West Brook and Connington Brook / Hilton Road Drain.

1.22.2 Drawing entitled "Fig 17.2 Flood Zones and Flood Compensation areas" held within Annexe B of the FRA, gives details of flood compensation areas and highlights in red floodplain areas lost due to the road. However, in sheet 7 the new road within West Brook and Hilton Road Drain floodplains has not been highlighted in red.

1.22.3 It is under discussion with the applicant that the areas of floodplain loss have been defined using the modelled outlines for the West Brook rather than the flood zone map. As referred to under issue 1.17 there are discrepancies between the detailed modelling and the published flood zones. We are informed that the applicant intends to resolve this through ongoing liaison with ourselves.

Issue 1.23 River Great Ouse Viaduct

Our Relevant Representations stated that;

We would request that the alignment and shaping of the piers of the viaduct crossing the River Great Ouse be reviewed.

This also relates to clarification as to the location of maintenance track underneath the viaduct.

We welcome the changes made to the crossing over the River Great Ouse (from an earlier design freeze) which has resulted in the removal of the embankment across the eastern edge of the Great Ouse floodplain. This has removed an element of flood risk that we considered to be unacceptable. However the design of the viaduct could increase flood risk if it is not considered carefully (this relates to conveyance of floodwater flow).

Impact

The current piers shown in drawings within the Annexe H are not aligned to the flood flow. Piers 6 and 7 are also too close to the river to prevent our staff having direct access along the bank during dragging situations when we work from the bank in a continuation fashion.

Solution

The piers within the floodplain need to be rotated approximately 45 degree to be in line with the flood flow. The piers should be hydrodynamic in shape to allow flood water to move around them smoothly and quickly.

The track running parallel to the river needs to be adjacent to the river to allow for our maintenance.

These issues can all be overcome at detailed design stage but the FRA must recognise the need for the changes to the viaduct now so these principles can feed into the detail designs later. . A set of principles within the FRA could form a Requirement for the road to be build in accordance with an agreed FRA.

Update for Written Representations

1.23.1 We have received no additional information or amendment to the Flood Risk Assessment in relation to this point as we requested in our Relevant Representation. We would require this and we request that the drawings in Annex H be amended as we have advised. We would also like to agree a legal mechanism by which the route of the maintenance track will be secured and will discuss this further with the applicant.

Issue 1.24 Hydraulic Models

Our Relevant Representations stated that;

Annexe D of the FRA holds the reports of the hydraulic models used but each model is also required.

Impact

Whilst reports have been submitted, we need to fully assess each watercourse where modelling data is available to assess what the impact of the scheme is and if we agree with the methodology of the modelling used and its findings.

Solution

The actual hydraulic models need to be submitted directly to us for full review in accordance with the reports set out in Annexe D along with any further updated models.

Update for Written Representations

1.24.1 Issue 1.24 concerns the hydraulic models used in the FRA, the models themselves need to be submitted to us for review to allow us to assess whether the methodology used in the modelling and the findings of the models are acceptable. Subject to the details contained therein, the reviews may result in the need for additional work on the models and/or changes to be made to the for river crossing designs as part of the model reviews.

1.24.2 Draft hydraulic models have previously been submitted for review to the Environment Agency. We have recently provided the applicant with an updated model (the Lower Ouse model) which was a strategic review and update of our modelling covering watercourses across the length of the proposal.

1.24.3 The applicant is applying the updated model data to the proposal and updating their models for relevant rivers. This update is ongoing and we anticipate that they will be completed over the course of the examination. Due to the importance of these models informing on the designs of the river crossings and floodplain mitigation proposals, we require the applicant to offer an acceptance at this stage that due to the limited timescales, their designs and mitigation proposals may need to alter once the modelling has been reviewed and assessed by us.

1.24.4 It is under discussion that this will be resolved urgently through liaison between the applicant, their design team and ourselves.

2.0 Navigation

2.1 As the Navigation Authority for the Great Ouse we are responsible for ensuring the navigation channel and any adjoining defined spaces are appropriate to allow the safe movement of traffic on the river. We define this as the 'Navigation Envelope'. The minimum channel width is 12 metres and the minimum headroom or "airdraft" is 3 metres above normal retention levels (of the water in that channel) to the soffit level of the viaduct.

2.2 Any reduction in the Navigation envelope with temporary and permanent structures should be eliminated or minimised in both the construction and operational phases related to the proposed A14 improvement scheme.

Issue 2.1 Navigation

Our Relevant Representations stated that;

Through discussions with the applicant, we identified the requirement for a 3000mm allowance from between the normal retention level of the River Great Ouse and the soffit of the bridge that is proposed to span it. This is to ensure that the River Great Ouse remains navigable at this location.

We therefore need to protect this navigation route to ensure the River remains open to navigable traffic.

Impact

There are many impacts associated with the loss of the Navigation Envelope; in particular this would impede the rights of the river users who are legally registered to navigate under the Anglian Water Authority Act 1977 and the Environment Agency (Inland Waterway) Order 2010.

Solution

We believe requirements should be secured against the DCO, and those requirements should include, but not be limited to, the following:

We request that the applicant be required to address the following issues:

1. Retention of Navigation freeboard

The applicant should demonstrate and justify what activity is required to take place and that the Navigation Envelope will be maintained during any temporary and or permanent works.

2. Temporary works during cross-river structure construction

Details should be provided of the positioning of any structures within the river channel, including although not limited to, safety boats, buoys, jetties, scaffolding, and platform or work barges. These details should include justification for any construction works within or above the river channel and the extent of timescale needed for the works.

3. Permanent cross river structure encroachment

Details should be provided on the final positioning and extent of encroachment above the river channel.

Details should be provided on the following:

- *Justification for positioning and extent of the encroachment*
- *Detail and justification on proposed navigational impacts*
- *Demonstration that the Navigation Envelope will be maintained*
- *Demonstration that the encroachments are designed to be streamlined with an aim to minimise the navigational impacts*

Update for Written Representations

2.1.1 Whilst the securing mechanism has not yet been agreed, we are satisfied that these matters can be covered by a [requirement](#) to address our above concerns. This issue should not be considered in isolation as there is a potential conflict between the times of year for peak waterway traffic and when higher flows are anticipated within the Great Ouse.

2.1.2 We will need to liaise with the applicant further during the detailed design programme in order to ensure that a mutually acceptable scheme of works can be developed.

Issue 2.2 Limits of Deviation

Our Relevant Representations stated that;

Draft DCO section 7, page 8 - We have concerns relating to the incorporation within the DCO for the applicant to apply lateral or vertical movement for the scheme over the River Great Ouse. We consider the wording at the end of (b) this Article regarding vertical deviation is particularly wide.

Impact

Any reduction in the height of the bridge crossing of the River Great Ouse could result in the prevention of navigation along the River Great Ouse.

Solution

Appropriate protective provisions should be incorporated to require a minimum clearance of 3000mm between the normal water retention level of the River Great Ouse and the soffit of the bridge.

Update for Written Representations

2.2.1 Linked to Issue 2.1, above, the 'limits of deviation' within the draft DCO have the potential to lower lowering the headroom or "airdraft" below 3000mm. This is considered inappropriate and could cause an unnecessary loss of Navigation. Whilst the securing mechanism has not yet been agreed we believe an appropriate [requirement](#) in any DCO could address this issue.

2.2.2 Additional information regarding safety measures, construction phasing and flood warning notification was incorporated within our Relevant Representations and will remain pertinent as we move through to the details design phase of the project.

3.0 Pollution Prevention

3.1 The development may affect the water environment in the following key areas:

- water quality in surface water and groundwater as a result of routine highway run-off
- pollution resulting from accidental spillages on the highway
- surface water or groundwater quality as a result of maintenance activities
- pollution resulting from activities in relation to the construction phase of the development

Issue 3.1 Accidental spillage controls

Our Relevant Representations stated that;

Issue and Impact

Highway run-off from accidental spillages has the potential to damage receiving watercourse through liquid contaminants being discharged to watercourses.

Solution

The Environmental Statement appendix 17.2 lists the outfalls where spillage containment shut-off valves form part of the proposed mitigation against accidental spillages. The draft Design Input Statement (DIS) also states that in an emergency shut off arrangements shall be readily accessible by ourselves and emergency services. To ensure that spillage containment shut-off valves are used effectively they need to be located, accessed and operated as and when required.

We request that either through the detailed design phase or as part of a formal requirement of the DCO, the applicant provide a sufficiently detailed accident management plan to ourselves and emergency services, including locations of pollution control points, secure access arrangements and operational design information.

Update for Written Representations

3.1.1 We are satisfied that this issue will be addressed through the [detailed design phase](#). The applicant has acknowledged the importance of this issue within the ES (as stated above).

3.1.2 The outcome of this is that we expect the new route, once completed, to pose a lesser risk of pollution to watercourses due to the increased traffic safety along the route and also through the incorporation of mitigation measures within the drainage system to prevent the discharge of pollutants in the event of any road traffic accident.

Issue 3.2 - omitted from Relevant Representations

Issue 3.3 Dewatering

Our Relevant Representations stated that;

Dewatering of excavations has the potential to damage the receiving watercourses.

Solution

Implement suitable pollution prevention controls where dewatering activities occur, for example, settlement ponds, sediment traps and visual checks.

Requirement

Dewatering activities are required to comply with the Environment Agency's Regulatory Position Statement (RPS): Temporary water discharges from excavations (<https://www.gov.uk/government/publications/temporary-water-discharges-from-excavations>).

Where dewatering activities do not fall within the criteria of the RPS then the discharge will require an environmental permit for a bespoke water discharge activity. Dewatering activity is currently exempt from regulatory requirements.

Update for Written Representations

3.3.1 Supplementary information was incorporated within our Relevant Representations relating to environmental protection and the Duty of Care responsibilities of the applicant and their contractors. As with aforementioned issues, this will remain pertinent as we move through to the detailed design phase of the project.

3.3.2 As identified within Section 14.2 of the Construction Code of Practice, we would request that proposed areas for dewatering be discussed through the detailed design phase of the scheme. This will enable the applicant and ourselves to be able to assess the potential impact on water quality as well as implications for groundwater.

4.0 Groundwater and Contaminated Land

Issue 4.1 Milton landfill Site

Our Relevant Representations stated that;

Some areas of land within the active permitting boundary for the site are scheduled to be purchased for the A14 scheme as part of the Compulsory Purchase Order. This site currently has an Environmental Permit (under EPR Regulations) for the operation of the site. (See drawing No. A14-JAC-ZZ-E1-DRZ-010024.pdf)

The operations on this site cause significant odour issues. There are ongoing pollution prevention measures being undertaken on site. These relate to gas and leachate removal. FCC, the operators of the site, are required to manage the pollution prevention measures that are on-site.

Some leachate wells will need to be removed from the site as a result of the proposed A14 scheme.

Access will also be required for EA officers to check the infrastructure on site and Permitting compliance. We would like reassurances as to the ability for the landfill site operators to be able to meet the requirements of their Environmental Permit post development of the A14 scheme.

This has raised questions such as:

What immediate and long term remediation would occur in this instance?

What procedures are in place to prevent the increase in pollution / risk?

Impact

The activity has the potential to impact upon the site regulators ability to comply with the requirements of their environmental permit. This could result in the increased risk of pollution to the water environment.

Solution

The applicant (J2A) has arranged three-way meetings between FCC (landfill operator), themselves and the EA to understand permit requirements and mitigation. Permit requirements include monitoring of wells located outside the waste between the waste and the A14; current boreholes are within the road footprint; GI underway in February 2015 aims to demonstrate that suitable conditions exist to install replacement monitoring wells. We believe that evidence to be presented to us when formal borehole logs are available. We would like this to be confirmed as a specific requirement of any issued DCO.

We will also need to discuss how the compulsory purchase of a permitted site impact on future regulation of the permit once works have been completed.

During construction, protection will be required for vulnerable site infrastructure (including landfill containment side walls, capping and gas/leachate extraction systems). This is included in the REAC (ES App 20.1) which states it will be secured by contractual responsibilities between the Highways Agency and the design and construction contractors.

These wells will be required to be reinstated by the developer in locations agreed with ourselves and they must be completed to CQA as per permit requirements.

Update for Written Representations

4.1.1 As mentioned above, the applicant (via their consultants J2A), have arranged three-way meetings between EA, FCC (the landfill operator) and J2A to understand permit requirements and mitigation.

4.1.2 It is agreed that current boreholes are within the proposed A14 boundary as identified in the DCO. It is under discussion that evidence will be provided to the EA that suitable alternative locations exist for monitoring wells following completion of the Ground Investigation (which commenced in February 2015). The replacement monitoring wells will be installed prior to construction to CQA (Construction and Quality Assurance).

4.1.3 Item G10 of the REAC (ES Appendix 20.1) states that the landfill integrity will be maintained during construction. This is intended to be provided through contractual agreement between the applicant and the design and construction contractor.

4.1.4 We would also request that a contingency plan be provided in the event that landfill infrastructure is compromised. Also, we need to ensure that monitoring data collected from new wells are consistent with previously collected data and there are no significant deviations. Whilst this is a technical issue associated with the regulation of the site, we need to ensure that the site operators are able to retain the responsibility for the ongoing operation of the site.

4.1.5 We would therefore suggest a specific requirement be incorporated within any DCO to address;

1. That in accordance with Item G10 of the REAC (ES Appendix 20.1) - the landfill integrity will be maintained during construction. This has been identified as being provided through contractual agreement between Highways England and the design and construction contractor.
2. That a contingency plan is provided in the event that landfill infrastructure is compromised.

Issue 4.2 Area of land affected by contamination

Our Relevant Representations stated that;

The scheme should not introduce new pathways of contamination or new contaminants linkages to controlled waters, especially on any sites that have previously been remediated.

A number of potentially contaminated land areas have been identified within Figure 12.1 of the ES. In addition, there are known contamination issues at;

- *Woodhatch Farm site in Ellington (Waste Permitted Site)
(See drawing No. A14-JAC-ZZ-E1-DRZ-010004.pdf)*

This should also incorporate a precautionary requirement for (in the event of the discovery of contamination) the investigation and / or remediation as deemed necessary.

Impact

The mobilisation of contaminants due to the construction activity has the potential to enact the direct discharge of hazardous substances to surface or ground water and risks will need to be properly mitigated under Environmental Protection Regulations 2010. A precautionary approach should be taken.

Surface water collected from potentially contaminated areas will need to be tested prior to discharge. Groundwater should be prevented from running through waste which is prohibited under the Water Industry Act 1991, Section 71: it is an offence to cause or allow any underground water to waste from any well, borehole or other work. This could be interpreted to include permanent passive de-watering due to cuttings going beneath water table.

Solution

These areas need to be appropriately risk assessed and included in any scheduled further investigation works. A rationale for why sites have not been taken forward for detailed assessment as part of the route's desk study should be provided.

Direct discharge of hazardous substances to groundwater and risks will need to be properly mitigated under Environmental Protection Regulations 2010. We will therefore need to be consulted.

Some of these aspects have already been identified within the proposal. Works should be carried out in accordance with the section 9 (Geology and Soils) of the Construction Code of Practice (Appendix 20.2). We would request that the DCO provide requirement to us to retain a role in assessing any remediation activity.

Update for Written Representations

4.2.1 We are satisfied that the preliminary risk assessment is included in the ES Ch.12 and Appendix 12.1 (Table 12.4) and proposals within the Construction Code of Practice will provide appropriate provision for the construction contractor to address any areas of land contamination.

4.2.2 It is acknowledged that there is potential for localised contamination to be present in areas not identified at this stage, and there is provision in the CoCP and the requirement contained in Paragraph 5(2) of Schedule 2 to the DCO for the management of material suspected to be contaminated which is encountered during works. This requires that the relevant planning authority or ourselves be consulted should contaminated land or groundwater be encountered if not anticipated in the Environment Statement, and a risk assessment completed.

4.2.3 In relation to the potential site of contamination identified at Woodhatch Farm in our Relevant Representations, we consider the implications for both the site and the proposed A14 scheme to be negligible, unless the A14 is moved significantly further south. We do not anticipate this based upon the identified areas of land to be acquired or used.

Issue 4.3 Embankment and Viaduct Foundations

Our Relevant Representations stated that;

We would seek to obtain the finalised details of the groundworks in the vicinity of the River Great Ouse as they become available. There should be consultation with ourselves as required. Initial recorded groundwater levels in superficial deposits in the vicinity of the river are around 0.5 metres to 1 metre below ground level.

We anticipate that we will be able to obtain this information through the detailed design phase.

Update for Written Representations

4.3.1 We are satisfied that details of the foundations will be available through the [detailed design phase](#) of the scheme.

Issue 4.4 Buckden South Landfill Site

Our Relevant Representations stated that;

As with Issue 4.1, Milton landfill site, the proposal has the potential to disrupt in-situ waste deposits. The landfill site is detailed on drawing No. A14-JAC-ZZ-E1-DRZ-010006.pdf

Impact

The disturbance of this existing landfill site could mobilise contaminants and result in leachate being drained either toward groundwater sources or via surface water to the River Great Ouse.

Solution

The necessary environmental maintenance and environmental liabilities should be applied and ground investigations and / or remediation as may be required.

Some of these aspects have already been identified within the proposal. Works should be carried out in accordance with the section 9 (Geology and Soils) of the Construction Code of Practice (Appendix 20.2).

Due to the higher risk from contamination in this area, we would like this to be confirmed as a specific requirement of any issued DCO. This would include any mitigation measures to be undertaken to ensure no detrimental impact to water quality occurs.

Update for Written Representations

4.4.1 It is agreed that the extent of waste deposition at Buckden South landfill is uncertain. Due to the higher risk from contamination, we had earlier suggested a specific requirement of the DCO to include mitigation measures to ensure no detrimental impact to water quality occurs.

4.4.2 The scheme intrusive investigations correlate well with those of the landfill operator. The applicant believes that concentrations of contaminants are not significant. The scheme will be on embankment in this area reducing the risk of encountering contaminated materials. The applicant believes that mitigation measures will be dealt with in the Code of Construction Practice which is included in the DCO.

Issue 4.5 Borrow Pit No. 6

Our Relevant Representations stated that;

This borrow pit is located within a geologically sensitive area due to the underlying Woburn Sands aquifer. See drawing No. A14-JAC-ZZ-E1-DRZ-010024.pdf

Impact

Excavation could impact upon the capacity and through-flow of water within the aquifer. Initial data indicates the Woburn Sands aquifer is between 5m and 8.75m below ground level in this area. Initial recorded groundwater levels in the borrow pit area range between 2 and 4.5m below ground level in clay rich superficial deposits, with an indication of some possible confined pressure (0.5m bgl) in underlying bedrock.

Solution

To ensure the protection of existing groundwater sources we would request that the DCO provide requirement to us to retain a role in assessing any design and monitoring information for the borrow pit in this location. We would like consultation to be undertaken with us as soon as data or updates become available.

This should also include the production of a scheme for dewatering to be incorporated within the borrow pit design plans. Baseline monitoring data is also required for hydrocarbons and was agreed as part of meeting outcomes held previously for the scheme.

This will feed into development of the borrow pit and dewatering scheme design.

The design should also incorporate the maintenance of a 1 metre thickness in-situ clay layer and undertake permeability testing to ensure a 10⁻⁷ permeability value is achieved.

Update for Written Representations

4.5.1 Initial ground investigation data indicates the Woburn Sands aquifer is between 5m and 8.75m below ground level (bgl) in this area. Initial recorded groundwater levels in range between 2m and 4.5m bgl in clay rich superficial deposits, with an indication of some possible confined pressure (0.5m bgl) in underlying bedrock.

4.5.2 It is under discussion that the risk of dewatering is to be fully assessed following completion of the ongoing Ground Investigation. Consultation will then be undertaken with ourselves during the detailed design phase when the results will feed into the BP design and any dewatering scheme.

Issue 4.6 Limits of Deviation

Our Relevant Representations stated that;

This should not be permitted in areas where the proposed scheme encroaches onto permitted sites (Milton Landfill). There is also the potential for mobilisation of contaminants from affecting the in-situ waste deposits around the Buckden South Landfill site.

Impact

Draft DCO section 7, page 8 - We have concerns relating to the lateral or vertical movement of the route, even within the area Compulsory Purchased to deliver the scheme. In relation to contaminated land, the deviation of the scheme could detrimentally impact the ability of site operators to undertake their responsibilities under the terms of their Environmental Permit or lead to increased risk of pollution to the water environment.

Solution

Appropriate protective provisions should be developed to ensure we are consulted upon (and agree proposals for) any deviation where there are over or within;

- *Milton landfill site
(See drawing No. A14-JAC-ZZ-E1-DRZ-010024.pdf)*
- *Buckden South landfill site
(See drawing No. A14-JAC-ZZ-E1-DRZ-010006.pdf)*

Update for Written Representations

4.6.1 As with the aforementioned Issues on Flood Risk (Issue 1.8) and Navigation (Issue 2.2), this issue relates our concerns over the possible deviation, both laterally and vertically, of the scheme. This could have implications on areas used for the previous deposition of waste.

4.6.2 It is under discussion as to whether provision is made through the DCO for this or whether there is consultation between parties over any horizontal alignment changes during detailed design phase.

4.6.3 As with issues 4.2 and 4.4, above, we are of the opinion that these can be dealt with via the process stated within the ES and CoCP. However, this point does remain relevant when considering the potential impacts upon Milton Landfill Site (Issue 4.1, above).

5.0 Ecology

5.1 We are the key regulatory authority for implementing and delivering the requirements of the Water Framework Directive (WFD). As the Government's expert advisor on the water environment, we focus on water and wetland dependent habitats and species. Our role in wider biodiversity issues is discretionary and will depend on the level of risk, our role as a regulator and available resources.

Issue 5.1 Culverts and Wildlife access

Our Relevant Representations stated that;

The numerous culverts on the ecological mitigation plan are marked as either passage for great crested newts, bats, badgers, otters or water voles. It needs to be shown at the detailed design stage that the culverts will be suitable for the wildlife that will need to use them to maintain connectivity between their habitats and meta-populations. This should include badgers, water voles, otters, eels, fish and great crested newts.

Solution

We have contributed to the early design proposals through our liaison with the applicant throughout the pre-application planning process.

The detailed design needs to show that the culverts will be accessible and allow passage for the wildlife that needs to use them. This should include otters that are likely to be using all watercourses, including small or dry ditches. We would therefore wish to be able to review all final proposals through the detailed design phase. This is also linked to the Design Impact Statement on culverting sizes upon which we've been consulted.

Update for Written Representations

5.1.1 We are generally opposed to the culverting of watercourses because of the adverse ecological, flood risk, human safety and aesthetic impacts. Culverts can destroy wildlife habitats and interrupt the continuity of the linear corridor of a watercourse. Detrimental effects are likely to include adverse effects on natural morphology, fisheries and wildlife habitat and the creation of barriers to fish passage through increased water velocities and shallow depths.

5.1.2 The protected species likely to be affected by culverts, including badgers, water voles, otters, eels, fish and great crested newts are protected by the Wildlife and Countryside Act 1981 and/or by the EC Habitats Directive (the Habitats Regulations). Under the Habitats Regulations great crested newts otters are classed as a European protected species and therefore given the highest level of protection. Eels and fish are protected by the Eels (England and Wales) Regulations, 2009 and Salmon and Freshwater Fisheries Act, 1975.

5.1.3 It is important that connectivity of habitats is maintained for all protected species likely to be affected by the proposal. This should include badgers, water voles, otters, eels, fish and great crested newts.

5.1.4 The detailed design should show that the culverts will be accessible and allow passage for the wildlife that needs to use them. This should include wildlife likely to be using all watercourses, including small or dry ditches. We would therefore wish to be able to review all final proposals through the detailed design phase.

5.1.5 The principles of the design of culverts have been agreed through the Design Impact Statement. We also take the view that confirmation of ecological mitigation measures can be provided during the detailed design phase. This will need to demonstrate that the culverts will be accessible and allow passage for the wildlife that needs to use them. This should include otters that are likely to be using all watercourses, including small or dry ditches.

Issue 5.2 Bio-security

Our Relevant Representations stated that;

Issue

The construction and implementation phase has the potential risk of allowing or causing the spread of invasive and non native species.

Solution

The construction method statement needs to show that bio-security measures are in place. The method of control may need our consent to ensure no negative impact on the environment.

Update for Written Representations

5.2.1 Under the Wildlife and Countryside Act 1981 it is illegal to release or to allow escaping into the wild any animal which is not ordinarily resident in Great Britain and is not a regular visitor to Great Britain in a wild state, or is listed in Schedule 9 to the Act. It is also illegal to plant or otherwise cause to grow in the wild any plant listed in Schedule 9 to the Act.

5.2.2 Invasive non-native species should be included as part of the further ecological surveys to be carried out. This should include both plant and animal species. Appropriate mitigation measures should be put in place should any invasive species be found.

5.2.3 This issue should be addressed at the detailed design stage and through a construction method statement. Bio-security measures should be in place. The “Check Clean Dry” campaign as issued by the Non-native Species Secretariat should be followed as part of the construction method statement to ensure that non-native species are not allowed to spread.

Issue 5.3 Water Vole Mitigation

Our Relevant Representations stated that;

Issue

Loss of long term sustainability of water vole populations and direct impact on water vole.

Impact

For the protection of water voles, the water vole receptor site needs to be of sufficient size (50m habitat per breeding pair) and preferably connected into the existing watercourse network. Consideration should also be given to online habitat enhancement and creation for water vole mitigation.

Strimming has been shown to be ineffective water vole mitigation in most situations . To prevent water vole moving into construction areas if not already present it would be more appropriate to expose bare earth. New guidelines for water vole mitigation are due to be published soon, which should be adhered to.

Solution

Detailed design (construction and phasing plans) should ensure that a functioning water vole receptor site of sufficient size is created in advance of the construction works. Water vole mitigation should be reviewed and made compliant with Mammal Society guidelines.

Update for Written Representations

5.3.1 Water vole are protected under the Wildlife and Countryside Act 1981 (as amended), schedule 5.

5.3.2 Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services, DEFRA - Mission statement is 'to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for the benefit of wildlife and people'. In addition it states: 'We will work with transport agencies and key delivery partners to create coherent and resilient ecological networks in the natural areas at the edges of our strategic roads and railways, which cover approximately 60,000 hectares'.

5.3.3 We will therefore seek to ensure that the issue is appropriately addressed through the detailed design phase for the scheme.

Issue 5.4 Watercourse Diversions

Our Relevant Representations stated that;

We have ecological concerns relating to the following 3 watercourses;

- *Alconbury Brook (Drawing No. A14-JAC-ZZ-E1-DR-Z-01002)*
- *Covells Drain (Drawing No. A14-JAC-ZZ-E1-DR-Z-01013)*
- *West Brook (Drawing No. A14-JAC-ZZ-E1-DR-Z-01011)*

These are also listed in Table 17, 19, 17/74.

Issue

Watercourse diversions have the potential to damage the ecology of the watercourse and cause deterioration of the quality or ecology of the river.

Opportunities should be sought to enhance the watercourses affected by diversion works. This could include improvements to the hydromorphology, ecology, bank profile at the detailed design stage

The detailed design should include how the diverted watercourses will be enhanced for ecology and hydromorphology.

Update for Written Representations

5.4.1 The watercourse realignments are referred to in more detail in the WFD opportunities document. Please refer to this document for further detail. We are seeking to secure Protective Provisions to address the details of watercourse realignment (Issues 1.2 and 1.3, above). Through this process we will incorporate the consideration of the specific issues raised within our Relevant Representations.

Issue 5.5 Water Vole Surveys

Our Relevant Representations stated that;

Water vole and otters surveys on dry watercourses

There remains the potential to impact on otter or water vole populations if dry watercourses are not assessed prior to construction as both species are known to use these for dispersal. Further pre-construction surveys for otter and water vole should be undertaken on all watercourses.

Update for Written Representations

5.5.1 Otter and Water vole are protected under the Wildlife and Countryside Act 1981 (as amended). Surveys should be carried out at the appropriate time of year and mitigation measures put in place where required. The results of ecological surveys carried out prior to construction will need to be used as the basis for detailed design and construction decisions.

6.0 Water Framework Directive

Issue 6.1 Water Framework Directive

Within our Relevant Representations we stated that;

*There are several amendments that need to be undertaken in relation to **Appendix 17.3: WFD compliance assessment**. The issues and solutions to address these points are listed below.*

- **WFD compliance assessment 1.2 Assessment Background**
Impact on WB Chemical Status is not considered which is required in order to demonstrate it has been considered in the context of WFD legislation
- **WFD compliance assessment 3. Baseline Conditions**
Hydromorphological designation and reason for designation has been omitted from waterbody tables. This information should be included.
- **WFD compliance assessment**
It is noted that the assessment is based on outline design so overall impact cannot be fully assessed. The full assessment of WFD compliance should be required to be undertaken based on detailed design.

Solution

We would suggest a requirement to update the WFD assessment as part of the detailed design phase of the proposal. This should incorporate all of the above issues.

The applicant should undertake the WFD review in consultation within the Environment Agency.

Update for Written Representations

6.1.1 A list of WFD opportunities were identified within our Relevant Representations. An assessment of the chemical status and the hydromorphological baseline has been included in the ES Ch.17.

6.1.2 It is under discussion as to whether an update of the assessment will be undertaken of the detailed design of the scheme. In any case, we will utilise this opportunity to promote the opportunities for WFD improvements.

6.1.3 Further information on the opportunities and methods for integrating environmental and water management improvements into detailed development design can be found in 'Planning Advice for Integrated Water management' (University of Cambridge Institute for Sustainability Leadership).

Appendix A - Additional Information Required

1. Revised Flood Risk Assessment (FRA)

A revised FRA needs to be provided to address the following issues:

Issue 1.9

Annexe B of the FRA should be revised to show that all soil storage areas (SSAs) will be located outside the extent of Flood Zone 3.

Issue 1.14

Our concerns relating to climate change allowances will need to be addressed within a revised FRA.

Issues 1.15 to 1.21

- Further information should be included in the FRA regarding which areas of floodplain compensation will need to be created prior to the construction of each phase of the development. A drawing illustrating this would be helpful.
- For each flood compensation area, a cross-section drawing should be included showing the changes in ground levels with slices through each band of level for level compensation, as stated in the tables within Annexe F.
- A signed agreement should be included in the FRA, which will require Highways England to provide us with the necessary information for each flood compensation area (FpC) area to allow us to incorporate the FpC areas into our Flood Map following completion of the development.
- Evidence needs to be included in the FRA to demonstrate that all the proposed FpC areas are located outside the existing floodplain.
- A statement should be included in the FRA to confirm that any borrow pits that include FpC areas or are located within the existing floodplain will be secured as floodplain for the lifetime of the scheme.
- The drawing in Annexe B of the FRA should be revised so that all FpC areas are aligned with the existing floodplain or close to the existing floodplain so that these are in continuity with the natural floodplain.
- Any soil storage areas shown to be within the new FpC areas should be relocated to areas outside of these and outside of Flood Zone 3 - the drawing in Annexe B should be revised accordingly.

Issue 1.23

The FRA should include a statement which recognises that changes will need to be made to the design of the viaduct crossing of the River Great Ouse at the detailed design stage to ensure that the piers are in alignment with flood flows and our staff are able to access the banks of the River Great Ouse for maintenance purposes.

Annexe B of the FRA needs to be revised as many of the ordinary watercourses are marked as main rivers.

The plans included in Appendix 17.1 in Annexe H of the FRA need to be revised to address this issue and to demonstrate that our staff will be able to access the banks of the River Great Ouse for maintenance purposes.

2. Hydraulic Models

Hydraulic models for the following watercourses need to be provided to us to review, as detailed in the submitted modelling programme. Further model changes and/or design changes may be required following our review of these models.

- Alconbury Brook
- Cock Brook
- Ellington Brook
- Brampton Brook
- Great Ouse
- West Brook
- Oxholme Drain
- Covell's Drain
- Utton's Drove Drain
- Longstanton Brook
- Oakington Brook
- Beck Brook